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ABSTRACT

A basic assumption of the transfer-of-control paradigm is that education involves a gradual shift in responsibility for learning from the teacher to the student. Several issues derived from this approach have been investigated in the three studies reported here: relationship between teacher characteristics and teacher control styles; the effects of different teacher control strategies on student value decisions, performances, and satisfactions; and interactions among teacher control style, student characteristics, and student outcome. Results show that a) teacher characteristics of achievement motivation, dogmatism, and belief systems are systematically related to preferences for teacher control strategies; b) teacher control styles have strong effects on student decisions concerning their college education (high-control strategies lead students to favor the value of efficiency; low-control strategies, the value of personal and social growth); and c) students with high internal control perform better under low-control conditions and those with high external control perform better under high-control conditions. (Author/JB)

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FACTORS INHIBITING TRANSFER OF CONTROL IN EDUCATIONAL SETTINGS

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INTRODUCTION

Education may be viewed as a process in which there is a gradual transfer of control from teacher to student. Control is defined generally to include both control over what is learned and how it is to be learned. The young child entering school, as well as the advanced student beginning a new course of study, are both, to differing degrees, initially dependent upon the teacher for providing some structure to their educational experience. As education proceeds, however, the student will hopefully become more independent in terms of acquiring, analyzing, and integrating existing knowledge, in initiating his own lines of inquiry, and in developing the conceptual and work skills necessary for continuing his own education. The conception of education as a process of transfer of control through successive stages of teacher control, shared control, and student control is inspired by the work of Carl Rogers (1951,1969). Rogers has explicitly applied this paradigm to the therapeutic process and has related it also to educational practice.

That this conception of the educational process is not universally accepted may be seen by comparing it with two popular alternative positions. The authoritarian (or traditional) position assumes that teacher control is essential throughout the course of learning. The task of the student is to learn what is assigned by the teacher in the manner the teacher prescribes. It is interesting to note that the "new look" in programmed instruction, particularly as it derives from the behavioristic theory of B. F. Skinner (1953, 1954), closely parallels the traditional assumptions of teacher control, except of course that the programmed machine replaces most teaching functions. Although generally overlooked, an early debate between Rogers and Skinner (1956) served to articulate very clearly the contrasting conceptions of control in education that are reviewed here.

A second alternative to the transfer of control position is to be found in some radical or progressive views of education. Educators such as A. S. Neill (1960), Paul Goodman (1962), and John Kohl (1968) assume that teacher control should be minimized if not eliminated altogether, so

that the student's "intrinsic abilities"may be allowed to blossom without institutional oppression or interference.

Conceptually, then, the transfer of control position differs from the authoritarian model in that it views the educational task as one in which the teacher gradually makes himself dispensible to the student (rather than indispensible), but it differs also from the radical or progressive position by assuming that some teacher control and structure is necessary, particularly at the beginning of the learning process.

In the research reported here, an attempt was made to investigate certain aspects of the transfer-of-control process in educational settings. In order to reduce the problem to manageable proportions, four sets of variables were identified (see Figure 1) that were theoretically relevant to the transfer-of-control problem.

The first set of variables were characteristics of teachers that were derived from various personality theories and were believed to be related to the capacity or incapacity to "give up" teacher control in classroom settings. A more positive expression might be to "encourage student control and initiative" in classroom settings.

A second set of variables in Figure 1 concerned the actual strategies of control that may be used in teaching and learning situations. These strategies may vary from absolute teacher control, where the teacher structures, directs and evaluates all learning activities to complete abdication of teacher control where students are left to their own resources. The third set of variables in Figure 1 concerned characteristics of students in terms of personality dispositions, perceived competency and level of task skills that were believed to be related to the student's capacity to accept control over and responsibility for their own learning. The fourth set of variables were the outcomes as dependent variables investigated in the research reported here. The outcome variables ranged from performances on specific tasks to fairly global value choices made by students in educational settings.

Each of the studies in this report investigated certain relationships between sets of variables shown in Figure 1. It should be noted that the research population in these studies was limited to college students and

FIGURE 1

Major Variables in Transfer-Of-Control Paradigm

Teacher Characteristics	Teacher Control Strategies	Student Characteristics	Student Outcomes
achievement motivation	high vs low task structure	achievement motivation	performance
dogmatism	uniform vs individual standards for performance	anxiety	satisfaction
belief system characteristics	positive vs negative use of failure	social approval	learning
	task vs socioemotional orientation	academic recognition	value choices
	cooperative vs competitive structure and grading	independence	sense of efficacy and control
		internal-external control	generalizability of learning
		level of task competence	

college teaching situations. Also, the studies were limited to experimental and quasi-experimental methodologies so that care must be taken in generalizing results to field settings.

The remainder of this introductory section will give a brief description and review of each study and discuss briefly the significance and implications of the research findings. Full details of the research are to be found in subsequent sections of the report.

Overview of Research

The first study in the series of three reported here, addressed itself to the relationship between certain personality characteristics of teachers and their teaching styles, especially those aspects of style that involved control over the learning process. In particular, we were interested in those personality dispositions in teachers that may be related to the facilitation or inhibition of effective transfer of control in learning settings.

On the basis of previous work in individual and group achievement motivation (Zander 1968, Forward 1969), it was predicted that those factors that facilitated superior performance by persons high in achievement motivation when working on individual goals would be the very same factors that may inhibit the effective transfer of control when working on a group or "joint" goal such as education (see rationale below). In addition, it was hypothesized that persons high on dogmatism (Rokeach 1960), would also be unlikely to relinquish any degree of control in teaching situations. Also, various other relationships between the belief systems (Harvey, Hunt and Schroder, 1960) of teachers and strategies of control were tested.

Teaching control styles were assessed through the use of an instrument that required teachers to give detailed responses to 24 college classroom situations. Responses from 31 graduate teaching assistants were coded in terms of six major control dimensions and these were analyzed with respect to the personality characteristics mentioned above. Results did not support the main hypothesis concerning the inhibitory effect of strong individual achievement motivation. In fact, results were in the opposite direction: high individual achievement

orientation in teachers in the sample used was more likely to facilitate rather than inhibit transfer of control in teaching situations. The measures of teacher dogmatism and belief systems were found to be related to teacher control styles in a manner consistent with the respective theories (details given below).

In the second study reported here, the focus of interest shifted to the effects of teaching control strategies on student values and performances while controlling experimentally for teacher characteristics. We were especially interested in the question of whether there would be any interaction effects between control conditions, student characteristics and outcome variables.

In order to obtain measures of student value-choices with respect to their college education, a quasi-simulation "University Game" was developed. In this game a sample of undergraduate students made a series of decisions with respect to possible areas of activity during a typical four-year college education. In addition, for half of these choices, standard "feedback" was given as to the possible consequences of these decisions. Each decision alternative was given an *a priori* weighting on four different value dimensions: a) *Efficiency* - choosing a course of action to graduate in shortest time possible; b) *Academic* - choices indicate an interest in pursuing and developing academic activities beyond considerations of efficiency; c) *Personal and Social* - choosing activities in college to maximize personal growth as social skills; d) *Political and Cultural* - choosing activities that would satisfy cultural and political values.

The "University Game" was played under two "teacher-control" conditions. In the High Control condition, students were given a 15 to 20 minute lecture on all aspects of the game; the choices available and some of the positive and negative consequences of various choices. Student questions were not encouraged. In the Low Control condition, students were given a brief description of the game and then invited to proceed and to ask questions whenever they wanted additional information. The information given in response to questions was the same as that given to students in the High Control lecture.

Finally, the students in this study were pre-measured for achievement motivation, anxiety, social approval motive, need for academic recognition and need for independence.

Analysis of data from the second study showed that there was an effect for control condition on student value-choices and that there was also some slight interaction of control condition by student achievement needs. More specifically, students in the High Control condition made significantly more choices to maximize the value of Efficiency in their education than did students in the Low Control condition. This effect was stronger in students who were high rather than low in resultant achievement motivation. On the other hand, students in the Low Control condition made significantly more choices to maximize Personal and Social goals than those in the High Control condition. This effect was stronger for low achievers. No other effect for value-choices or for personality dispositions were found.

In this introductory review so far, we have summarized two studies that were derived from the transfer of control paradigm. In the first study, a somewhat unsuccessful attempt was made to relate teacher characteristics to preferences for control strategies in the classroom. In the second study, with teacher characteristics controlled for, we were more successful in demonstrating the differential effects of two control strategies on student value-choices in their educational experience. Also, we found preliminary evidence for the possibility of interaction effects between control condition and student personality variables. At this point, a decision was made to pursue further the sets of relations discovered in the second study rather than to return to the issues of study number one.

In the third study, a number of changes were made. First, rather than using our own concept and operationalization for the high and low teacher control conditions, we decided to base the condition on student's perceptions of control. From descriptions of high and low disciplined classes and ratings of class structure obtained from over 200 students, several dimensions of student perceptions of teacher control were obtained. The major dimensions were: a) amount of required work; b) difficulty of work required; c) organization of class; d) consistency of effort required;

e) class attendance required; f) hard grading. In the study, an attempt was made to develop High and Low Control conditions based on differences in dimensions c, d and e above. Since an additional concern in the study was student performance under various control conditions, it was necessary to control for dimensions a, b, and f.

In terms of student characteristics, a decision was made to investigate another set of personality variables that seemed to be logically related to the capacity to assume control over one's own learning process--that is, the variable of internal-external control (Rotter, 1966). It was expected that student differences on internal-external control might interact with control condition to affect student performance and other outcomes.

One last area of change between study two and study three concerned the nature of the student outcome variables. Whereas in study two, the emphasis was on the effects of control strategy on fairly global value-choices of students, as well as feelings of satisfaction and control, in study three the major emphasis was on specific performances on a specific task. Actually, what the study involved was a short two hour course on basics in computer programming with a standard test at the end (to write a short program) constituting the main measure of performance. This "class" was taught under the two variations in teacher control described above.

For reasons discussed in the full presentation of the study below, no effects were obtained in analysis using the overall score for Rotter's Internal-External Scale. However, for the Personal Control subscale, an interaction was obtained such that students high on personal control performed better in the Low Teacher Control condition whereas students low on personal control performed better in the High Teacher Control condition. Apart from this very important result, other predictions as to interactions with student expectations and perceived competency were not supported.

Implications and Significance of Research

The three studies completed under the current grant have provided data to support some of the basic assumptions underlying the transfer-of-

control paradigm in educational research. For example, the last study has demonstrated the importance of considering interactions between student perceptions of their own ability or competence and the degree to which a learning task is controlled and structured by the teacher. Since the transfer-of-control paradigm goes beyond static interactions and relates changes in actual skills, perceived competency and control transfer over time, it will be necessary to investigate these parameters further in studies that enable better manipulation of skill and competency variables and which extend over longer periods of time, hopefully in more naturalistic settings. However, the basic proposition of the paradigm has received some clear support from study three.

More problematic in terms of the significance of the research described here, is the relationship between teacher characteristics and preferences for transferring control to students in teaching situations. Obviously, some teachers will be more aware than others of the skill and competency levels of students and their willingness to give students some of the responsibility for their own learning when the time is right. Study one provides some fairly weak evidence that teachers who are high on resultant achievement motivation, low on dogmatism and high on Harvey's system-4 belief characteristics are more likely to be willing to encourage some student initiative and control in the classroom setting. If these and other control-related personality dispositions could be identified for teachers, this would have implications for teacher selection and training. However, it should be noted that the research reported here has dealt only with teacher dispositions and has not yet investigated in any great detail, specific teaching styles that may facilitate or hinder transfer of control.

Finally, the importance of considering the control factors and power structures of educational practice is underlined in study two reported below. In this study, a fairly weak and temporary variation in teacher-control condition produced marked differences in the kinds of educational values that a group of college students sought to realize in a simulation game of their university careers. High teacher control seemed to orient students towards maximizing the values of efficiency in

their education ("getting the degree," "doing what is required"), whereas less teacher control and more student control seemed to encourage students to expand their choices to include personal and social growth experiences. This result suggests that not all educational systems can realize the same set of educational objectives. In fact, whether intended or not, a high teacher control system is likely to produce students with sets of values and skills quite different from a low teacher control system. Moreover, since either a uniformly high or low control system tends to ignore the developmental dynamics of student skills, perception of competence and performances, we need to take into account the variable of time and the possibility of interactions between control conditions and student developmental status. The transfer-of-control paradigm researched here, can meet these requirements and also seems likely to facilitate the commonly accepted goal of all formal education; that the student is able to accept responsibility for his or her own continuing education once formal education has been completed.

METHODS

Since each study reported below differs somewhat in approach and method, each study will be reported separately and in sequence of performance. Full details of hypothesis derivation, design, procedures, analysis and discussion are given in this section. A summary of the results of all studies and an overall discussion will be found in later sections of the report.

Study One: Teacher Characteristics and Strategies of Control

The present study raises the question of whether the personal characteristics and interpersonal skills that contribute to a successful college research career may not, at the same time, be a hindrance to effective teaching. It is assumed here that effective teaching involves, not only the transfer of information from professor to student, but also the transfer of control over the process of learning (i.e., what is learned and how it is learned). Several educational theorists (Neill, 1960; Combs, 1962; Leonard, 1968; Rogers, 1969) have proposed a core set of conditions that are believed to facilitate the transfer of control in learning situations. Among these are: conditions of low external threat, individualization of standards, encouraging student initiative, self-evaluation, and the recognition that personal feelings are as much a part of the learning process as substantive content. It would seem, however, that faculty who have been immersed in the highly stressful and competitive activities of a scholarly or research career may find it difficult to create the kinds of classroom conditions that are thought to be of importance to student learning. In fact, the central assumption of this study is that the very characteristics that facilitate effective performance in the research-entrepreneurial role may hinder the transfer of control from teacher to student that is the heart of the learning process.

More specifically, we propose the following characteristics or style of interaction to be among the factors that might simultaneously be positively related to research productivity and negatively related to teacher-student relationships:

(a) Setting uniform standards of excellence for performance and evaluation.

(b) Valuing success more than failure.

(c) Task orientation to the exclusion of emotional and interpersonal needs.

(d) Preference for competitively rather than cooperatively structured situations.

These characteristics or styles of behavior have been derived in large part from a picture of the high-achievement oriented individual that emerges from the thinking and research of McClelland and his colleagues (McClelland, 1953, 1961; Atkinson & Feather, 1966). The specific manner in which each of these factors may be related to transfer of control in educational settings is as follows:

(a) Uniform standards of excellence: One empirically established characteristic of high achievers is their preference for establishing clear and uniform standards of excellence. Such standards serve both to facilitate clear-cut goal setting and to serve as explicit markers for evaluating subsequent performance (Atkinson & Feather, 1966). To the degree that a high achieving teacher defines the teaching situations as a personal achievement task and sets the standards accordingly, this behavior may have negative effects for effective transfer of control. For example, the setting of uniform and explicit standards as to what will be learned, how it will be learned, and when it will be learned may satisfy the teacher's needs for goal clarity and ease of evaluation, but it also tends to discourage student-initiated goal setting and subsequent individual differences with respect to training and amount learned. Perhaps the most critical aspect of achievement standards is that, since it is important for high-need-for-achievement people to set standards for themselves, they tend to do this in teaching situations also. This means, of course, that what are internal or intrinsic standards of excellence for the teacher are external or extrinsic standards from the viewpoint of most students.

(b) Relative value of success and failure: Persons strong in achievement motivation consistently show a steeper gradient for the value of success than for the negative value of failure over the range of

probabilities for success or failure. Almost by definition, high-need achievers are distinguished from low achievers by their relatively greater capacity for success satisfaction and lower capacity for anxiety about failure. However, the greater emphasis on success, especially when linked to the stress on standards and explicit feedback, may not produce the optimal conditions for student learning. On the one hand, it may create a great deal of student anxiety, especially among those who do not share the teacher's achievement orientation. This anxiety tends to center around grades and test performance rather than encouraging learning (Becker, 1968). On the other hand, a strong emphasis on successful performance may blind both teacher and student to the positive value of failure in terms of the insight or information given by the failure experience. In an ideal educational setting, both success and failure can be equally informative and meaningful. In fact, too heavy a stress on success may lead the student to choose the safe but sure path instead of the potentially more risky and creative path to knowledge and experience.

(c) Task and socio-emotional orientation: Perhaps one of the most important keys to the acknowledged success and productivity of the high achievement motivated person is their ability to devote themselves solely to the task at hand and to ignore such "distractions" as the opinion or approval of other people. This was demonstrated in Elizabeth French's (1958) study that showed a clear preference for task over personal feedback by high achievement persons whereas persons high on approval-seeking showed the opposite results. In a more analytical fashion, Forward (1969) found individual achievement tendencies to be entirely independent of approval-seeking tendencies in a group situation. The task-oriented high achievement teacher may therefore be expected to want to maintain rather than give away control over the educational "task." This, in turn, would make such a person relatively insensitive to the kinds of emotional support and encouragement that might be needed for students to accept greater responsibility and exercise greater initiative.

(d) Competition and cooperation: The preference of high achievement persons for competitive rather than cooperative achievement situations has been well documented (McClelland, 1961; Zander, 1968). Competitive structures permit clear feedback on individual performances which is not

always possible in group performance feedback. In addition, close competition provides an additional challenge and incentive for high achievement persons. While it is expected that high achievement teachers will utilize competitive rather than cooperative classroom procedures and grading systems, there is some evidence that cooperative structures may be better for facilitating student initiative and performance (cf. Deutsch, 1968; Miller & Hamblin, 1963). In any case, it may be assumed that competitive structures allow the teacher to maintain greater control over the class than cooperative procedures (group projects, group grades, etc.).

In order to begin an investigation of the complex set of relationships under investigation here, the first study seeks to establish only that there is some relationship between measured achievement motivation and preference for the styles of teaching performance discussed above. In addition to achievement motivation, two other sets of personality measures are investigated with respect to their relationships with styles of control in the classroom. The first is dogmatism (Rokeach, 1960). In terms of the teacher control strategies above, it is expected that teachers scoring high on dogmatism will tend to set common standards for students, enforce the standards more strictly, display a highly negative attitude towards failure, blame educational failures onto others, and maintain a strict task orientation to the neglect of socio-emotional needs.

One final set of individual measures explored in the first study are the belief systems developed by O. J. Harvey and his colleagues (Harvey, Hunt, & Schroder, 1961; Harvey, 1970). Although the four major belief systems differ on many dimensions, the main underlying dimension is the degree of concreteness or abstractness with which an individual cognitively processes his personal environment. In this study, System 1 people (most concrete) may be expected to show preferences for teacher control strategies that are very similar to the preferences predicted for high dogmatics above. At the other end of the continuum, System 4 people may be expected to show much less emphasis on strongly enforced common standards of achievement, to recognize the informational value of student failure experiences, to be more aware of socio-emotional as well as task needs in the class, and to be more flexible in the use of competitive-cooperative learning strategies. It is more difficult to make predictions for the

intermediate belief systems (2 and 3) except that we might expect System 3 persons to be more attentive to the social and emotional needs of students and to encourage cooperative rather than competitive modes of classroom interaction.

Subjects

From a list of all graduate teaching assistants at a large state university, a stratified random sample of 60 subjects was drawn--30 from natural science departments and 30 from social science departments. Inability to contact subjects, failure to show, time conflicts, incomplete data, or failure to appear for the second phase of the study subsequently reduced this number to 31. There were no direct refusals to participate. In the final sample, 16 subjects came from the natural sciences and 15 from social sciences departments.

Personality Measures

The measure of achievement motivation used in this study is that developed by Mehrabian (1968, 1969). The scale items reflect behavioral dispositions that are predicted to differentiate high and low achievement persons (cf. Atkinson & Feather, 1966). There are separate forms for males and females--the difference being in the context of achievement. Similar and satisfactory results have been presented for both scales in terms of their reliabilities (homogeneity and stability), convergent, discriminative and predictive validities (Mehrabian, 1968, 1969).

The measure of dogmatism used is a short form of the Rokeach dogmatism scale developed by Troldahl and Powell (1965). The short form (20 items) correlated .95 with the original scale and the split-half reliability coefficient for the short form is .79.

Belief systems were assessed by the This I Believe Test (Harvey, 1966) which consists of open-ended responses to 10 statements of fundamental values. Responses were coded by two experienced coders, and inter-coder agreement was 84%.

Teaching Situations Instrument

An initial set of 96 teaching situations was written to cover the teacher control dimensions mentioned earlier (uniformity of standards,

reactions to failure, task orientation, and cooperative-competitive learning structures). Each item consisted of a short description (5-6 lines) of a classroom or teaching dilemma to which the subject was asked to give a short written response as to what he or she would do in the situation. The response was then coded 1 or 0 depending on whether the particular control style cued by the item was present or absent in the response. For example, the following item was designed to elicit responses as to the use of uniform standards (vs. individualized standards) for all students in a class:

> After you have assigned a short paper on a specific topic, a student asks if it would be possible for each student to select their own topic depending on their individual interests. Your reply is.....

The initial set of items was reduced to 40 items by four judges' agreement that a particular item cue belonged to a particular control dimension category. In this process of reduction, the original four dimensions were further divided into sub-categories. These may be seen in Figure 2.

The 40 items were pre-tested on a small group of graduate teaching assistants who were not in the final sample for the study. These were coded independently by four judges and only those items on which there was substantial reliability (.75 or greater) were retained. The final form used in the study included 24 items, six in each control dimension and three in each sub-category. The range of inter-coder scoring reliability for these items across the 31 subjects actually used in the study was .76-.93 with an average reliability for all items of .84.

Scale Analysis

The responses on the Teaching Situations Measure were subjected to scale score analysis (Scott, 1968). Three of the sub-scales showed some degree of scalability, although reliabilities were quite low (.35-.50). These sub-scales were Attribution of Failure (2b), High Rule-Orientation (3b), and Competitive Grading Structure (4a). Homogeneity ratios ranged from .15 to .25 (recommended optimal range is.20 to .40).

FIGURE 2

Teacher Control Strategies

I Use of Standards for Evaluation

1a Uniform standards for all students

1b Imposition of own standards

II Reactions to Student Failure

2a Judgmental, negative reaction

2b Attribution of failure to self

III Task versus Socio-Emotional Orientation

3a Task concern overrides emotional needs

3b Strong rule-orientation

IV Competition and Cooperation in Learning Situations

4a Structures competitive grading system

4b Competitive learning processes used

Because of the poor results for our a priori scale categories, all original 24 items were cluster-analyzed and 5 main clusters emerged. In terms of content, these empirically derived clusters are not greatly different from the old ones: (a) Rigid or Flexible Response to Student Initiative, (b) High Rule-Orientation under Stress, (c) Strict Application of Own Standards, (d) Willingness to Give Students the Benefit of Doubt, and (e) Blame Self not Others for Failure. Scale score analysis showed reliabilities for these clusters of .70, .73, .57, .57, and .45 respectively, and homogeneity ratios ranged from .22 to .37.

Procedure

The data were collected in two sessions. In the first session, the personality measures were collected, and about a month later the Teaching Situations Instrument was administered. Subjects who completed both sessions were paid $5. This was done to reduce possible volunteer effects.

Results - Study One

To test the notion that high achievement motivation would be associated with teacher styles that would make it difficult to transfer control to students, subjects were divided at the median on achievement scores, and t-tests for differences were applied to scores on the teacher control scales. The results are found in Table 1. It should be noted that only the scales that demonstrated some degree of reliability and homogeneity are used in the analysis. The results for achievement motivation clearly do not support our main contention. In fact, the one significant difference for "strict application of own standards" is in a direction opposite to that predicted, i.e., high achievement motivated teaching assistants are less likely to impose their own standards in a teaching situation. The only other difference that even approaches significance is also contrary to our predictions: high achievement teachers are less rather than more likely than low achievers to structure a grading system on a competitive basis (e.g., less likely to use a strict normal curve distribution, etc.).

The results for dogmatism, although generally weak, are consistent with our predictions (see Table 2). Teaching assistants who scored above the median for dogmatism were significantly more likely than low dogmatics

TABLE 1

Achievement Motivation and Teacher Control Scale Scores

Scale	Achievement Motive		t value	p
A priori	High	Low		
Attribution of failure to self	1.66	1.92	1	ns
High rule-orientation	1.25	1.33	1	ns
Competitive grading structure	1.08	1.75	1.67	<.12
Empirical				
Inflexible response to student initiative	2.16	1.50	1.08	ns
High rule-orientation	2.16	2.58	1	ns
Strict application of own standards	0.75	1.75	2.67	<.05
Give students benefit of doubt	0.92	0.92	1	ns

TABLE 2

Dogmatism and Teacher Control Scale Scores

Scale	Dogmatism		t value	p
A priori	High	Low		
Attribution of failure to self	1.66	1.92	<1	ns
High rule-orientation	1.33	1.25	<1	ns
Competitive grading system	1.58	1.42	<1	ns
Empirical				
Inflexible response to student initiative	1.92	1.75	<1	ns
High rule-orientation	2.25	2.50	<1	ns
Strict application of own standards	1.67	0.83	2.12	<.05
Give student benefit of doubt	0.58	1.25	1.67	<.12

TABLE 3

Belief Systems and Teacher Control Scale Scores

Scale	Belief System				F value	p
	1	2	3	4		
A priori						
Attribution of failure to self	2.00	2.25	1.33	1.50	1.41	ns
High rule-orientation	2.00	0.75	1.77	0.83	2.76	<.07
Competitive grading structure	1.13	1.25	0.22	1.16	2.58	<.08
Empirical						
Inflexible response to student initiative	2.37	1.00	1.88	1.33	1.26	ns
High rule-orientation	3.63	1.75	2.55	1.33	2.64	<.07
Strict application of own standards	1.38	0.75	1.44	1.66	<1	ns
Give student benefit of doubt	1.00	0.75	0.33	1.16	1.00	ns
n =	(8)	(4)	(9)	(6)		

to impose their own uniform standards on student performance in various teaching situations. Also, there was a tendency for high dogmatics not to give the students as much benefit of the doubt in ambiguous situations as persons scoring low on dogmatism.

For belief systems, the results are again generally weak (see Table 3) but consistent with predictions from belief systems literature and research. System 1 individuals have the highest scores on both the a priori and empirically derived scales of "High Rule-Orientation" and the general rank ordering of 1 3 4 and 2 is consistent with the theory of belief systems. However, there are probably differing reasons for the low scores on rule-orientation for System 2 and 4 persons. System 4 low scores are more likely due to flexible rule-orientation while System 2 low scores may reflect more an anti-rule orientation. Another difference between systems noted in Table 3 is that System 3 individuals use a competitive form of grading system much less than other belief system individuals. This is quite consistent with System 3 dispositions towards gaining the cooperation and approval of other people and trying to reduce overt conflict between them.

Discussion - Study One

The results obtained for achievement motivation provide no support for the hypothesis that persons strongly achievement oriented will also tend to maintain a high degree of control over a teaching or classroom situation. In fact, the few significant differences obtained directly contradict this hypothesis. If we can generalize from this limited data, we might say that there is nothing inherently contradictory about being a good researcher or scholar where the emphasis is on personal success, self-discipline, and competition and being a good teacher where the focus shifts towards the sharing or "giving away" of control and the mutuality of attainments. One direct policy implication of this finding is that universities should continue to seek faculty who excell in both research and teaching and continue to expect good performances in both. In the present study, there is little support for the idea that universities should specialize more in their faculty recruiting and hire either good teachers (who do little research) or good researchers (who do little

teaching). It is understood, of course, that this conclusion is based solely on the finding that the personality dispositions related to research achievements do not seem to be necessarily inhibiting when it comes to transfer of control in teaching situations. Other considerations, such as the distribution of time and effort, may make greater specialization in teaching and research functions desirable.

The other personality dispositions investigated in the present study are not so relevant to the teaching versus research controversy, but do but do provide some information about teacher characteristics and classroom control styles. As expected, teaching assistants who scored high on dogmatism tended to display a strong rule-orientation. For example, they report that they would be strict on enforcing "no smoking" regulations in class, in continuing to hold classes during student strikes, and in penalizing papers or projects turned in late. Highly dogmatic teachers also give students less benefit of the doubt, e.g., they are less willing to accpet a plausible excuse by a student for doing poorly on an exam. Similar results were obtained for System 1 (most concrete) individuals. At the other end of the teacher control continuum, System 4 (most abstract) teachers seemed to be most flexible in terms of the application of rules and standards, most willing to give students the benefit of the doubt, and more flexible in their response to student challenge and initiative. System 3 teachers are an interesting case. Although they tend to share a strong rule-orientation and inflexibility of response with System 1's, they are markedly lower than any other System in their use of competitive grading structures (e.g., they prefer not to use a normal curve distribution and favor group grades more, etc.). This fits a picture of the System 3 individual developed by O. J. Harvey and his colleagues that although they show much more concern for interpersonal needs, reducing conflict, and promoting cooperation, very often these activities are in the service of a very subtle manipulation of other people for their own ends.

Study Two: Teacher Control Strategy, Student Characteristics and Student Value Choices

In study one reported above the major focus of interest in the transfer-of-control paradigm was the relationship between specified teacher characteristics and preferences for various control strategies in classroom teaching situations. In study two, the emphasis is shifted to the effects of different control strategies on student value-choices and performance (see Figure 1). Also, consideration will be given to student personality characteristics that may interact with control strategies to affect the outcome variables used.

Previous research on the effects of large lectures versus small discussion sections on student performance may be related to the transfer-of-control paradigm if we consider the lecture-discussion group distinction to be equivalent to a gross difference in teacher control strategy. Although it is not always the case that more student initiative is fostered in small sections, it is generally assumed that a small class offers more opportunity for shared control and student participation.

A review of research in the 1950's and early 1960's on the effects of class size and class structure (McKeachie, 1963) revealed some disappointing results. Several studies showed absolutely no differences in student academic performance between classes taught by the lecture method and classes led by small-group discussion leaders. In fact, one study demonstrated that a group of students who were simply handed a class reading list at the beginning of the term performed as well on the final exam as classes taught by the lecture or discussion methods. It would seem then, that such gross differences in teacher control (from directed lecture to non-directed discussion) produce little overall differences in conventional academic student performances. It should be noted though that some students expressed greater personal satisfaction with discussion sections in which their participation was encouraged. However, there were a number of problems with this early research.

The first problem was that the early research failed to take account of individual differences among students and of possible interactions between class structure and personality that would wash out the main effects due to class structure alone. The interactional approach has been profitably

explored in several subsequent studies (reviewed immediately below) and is a main feature of the present study.

Following his earlier review, McKeachie (1967) has summarized the results of studies examining interactions between class structure (control conditions) and student characteristics. For example, it appears that students who are more able and intelligent can profit more from a smaller "discovery-oriented" class while less able students seem to benefit more from lecture classes that stress an organized, factual presentation (Siegel & Siegel, 1964, 1966). Individual variables of authoritarianism (Bendig & Hountras, 1959), independence (Patton, 1955), anxiety (Smith, 1955), cognitive style (Heath, 1964; Harvey, 1970) and achievement motivation (Koenig & McKeachie, 1959) have all been shown to be determinants of student reactions to different teaching styles. More recently, Mann et al, (1970) have completed a comprehensive study of classroom interaction and have identified over 13 different student personality styles that interact with teaching styles to determine classroom behavior and student satisfaction.

From this research, four major student personality characteristics have been selected that should relate logically to variations in teacher control and which have been shown to interact with classroom structure in the past. These personality dimensions are (1) resultant achievement motivation; (2) need for independence; (3) need for approval and (4) need for academic recognition. The expected interactions are described below in the hypotheses for the study.

Although the present research builds upon past studies in the area of individual student characteristics, it differs somewhat in the control of teaching strategies and in the major outcomes or dependent variables studied. In the present study, differences in teacher control strategies were experimentally manipulated whereas past studies have used a wide variety of "naturally occurring" instances of variation in teacher conditions (e.g., the use of ongoing lecture or discussion classes). By using experimentally controlled variations of teacher control, we hope to obtain a bit more clarity in definition and be able to make use of the powerful principle of randomization in the assignment of students to conditions. This is particularly important in the case of studying

the interactions between student personality and teaching conditions. Past studies have often confounded these by allowing students to select the teaching situation they prefer most.

The difference between the major dependent variables used in this study compared to past research is perhaps the most interesting aspect of the study: In previous investigations, the outcome variables have typically been conventional measures of student performance (exams, standardized tests, etc.). However, the use of these measures presupposes a certain set of values for the educational experience of students. For example, good test-taking performance is likely to be prized by students who place a high value on efficiency in education ("getting through as quickly as possible") or who value achievement ("doing well") or who perhaps may even have some intrinsic interest in the material studied. The research done so far has made a valuable contribution to an understanding of the personal and structural factors that maximize these conventional values for various types of students. What has been missing has been other kinds of values that may be developed throughout the course of a college career. A well-rounded education may not only give students some expertize in some specialty or profession, but may also offer opportunities for self and social growth and may also enable students to become more active participants in cultural and political activities ("political" is given a more general meaning here in the sense of participating in shaping the institutional structures that control peoples' lives).

To expand the range of dependent variables in this field of research, a quasi-simulation "game" was developed for this study. This game, or experimental task, represented to the student subjects a short four-year college career in which a series of choices had to be made. Each of the decision points represented choices of activities that satisfied different values in the student's educational career (see Appendix B). The values represented by these choices were "efficiency","academic achievement", "self and social growth" and "cultural and political involvement."

Hypotheses

The main hypotheses of interest in the study concern the expected interactions between student personality variables and teacher control

conditions as they may affect student value-choices in their educational experience. In particular, we predict that in the high teacher control condition, students will make significantly more choices that enhance the values of efficiency and academic achievement than in the low teacher control condition. On the other hand, in the low teacher control condition compared with the high condition students will make significantly more value-choices towards personal/social growth and cultural/political involvement. These teaching condition differences are expected to interact with individual differences in student achievement motivation. Students scoring high on resultant achievement motivation (high nAch-low anxiety) will show larger differences in the values of efficiency and academic achievement between teaching conditions while low resultant achievement students (low nAch-high anxiety) will reveal larger differences between teaching conditions in the values of personal/social growth and cultural/political involvement.

Further hypotheses concern possible interactions between teaching conditions and the other personality variables studied. Students scoring high rather than low on needs for social affection and approval will choose to optimize values for personal/social growth and this difference will be more apparent in the low rather than high teacher control condition. Students high on the need for academic recognition will make decisions in favor of the value of academic achievement and this will be greater in the high rather than low teacher control condition. Finally, students scoring high rather than low on independence needs are expected to distribute their choices more among various values and to be less affected by variations in teacher control strategies.

Method

To summarize the design of the study: Students pre-measured on the personality variables of achievement motivation, need for approval, need for academic recognition and independence need will be randomly assigned to either a high or low teacher control condition in which they will be engaged to play the "University game." This game consists of a series of decisions to be made in situations typically encountered in the course of a college career. Each choice at a decision-point represents a particular educational value--"efficiency," "academic achievement," "personal/social growth" and "cultural/political involvement."

Subjects

Subjects were recruited from an Introductory Psychology class at a large state University. One hundred and twenty students completed the package of personality measures about three weeks before the study and of these, 64 participated in the study. Equal numbers of males and females were selected.

Personality Measures

The measure of achievement motivation used is that developed by Mehrabian (1968). The scale items reflect behavioral dispositions that theoretically differentiate between persons high or low in resultant achievement motivation (c.f. Atkinson & Feather, 1966). There are separate forms for males and females; the difference being in the context of achievement. Satisfactory data has been obtained for both scales for reliabilities (homogeneity and stability), convergent, discriminative and predictive validities (Mehrabian, 1968, 1969).

The measures of social approval, academic recognition and independence were obtained by use of the Personal Values Questionnaire developed by Dr. Richard Jessor of the University of Colorado. The instrument consists of 30 items with 10-point unipolar response scales and is divided into three sub-scales. The Social Love and Affection sub-scale assesses the degree to which a person is oriented towards gaining the affection and approval of other people. The Academic Recognition sub-scale measures the disposition towards achieving good grades and gaining recognition for doing so. The Independence sub-scale assesses the degree to which people will engage in preferred activities irrespective of the opinion of other people.

The University Game

The main dependent measure in the study is the number and type of choices made in the quasi-simulation University Game (see Appendix B). The game consists of a series of seven different situations that undergraduates may be expected to fall into during the course of their college career (e.g., decisions about academic matters, social life, cultural and political activities, professional career, etc.). For

each of the seven situations, a brief description of the situation is given and students are asked to make a choice among three alternative courses of action. Following the initial choice, the student is given feedback on the consequences of the choice made (e.g., the choice of an experimental studies program over an honors program results in increased interest, but difficulty in meeting degree requirements). Following feedback, the student then makes another choice from among a set of alternative actions. Thus, each student who plays the game makes fourteen decisions, two in each of seven different situations. For half of these choices, standard feedback on possible consequences is given.

To score each potential choice in terms of the value dimension involved, a set of a priori value weights were assigned before the study to each choice by four judges working independently. The final weighting system was the set of weights that was unanimously agreed upon. Since it was discovered that it was difficult to develop choice alternatives that satisfied one and only one of the sets of values, a weighting system was devised whereby for each choice 10 points were distributed over the various value categories. This system produced different total sums of weights for each value dimension so it was necessary to analyze the results within each value category only.

Procedures

Subjects were grouped according to whether they scored above or below the median on resultant achievement motivation and within each group were randomly assigned to either a High or Low Teacher Control condition.

For all subjects, when they entered the classroom they were told by the "teacher":

> "Today I am going to ask you to live through a four year experience at the University in just 30-40 minutes. You will receive a series of situations that you must deal with in a University and you will be asked to make some choices about them. Let me emphasize that there are no right or wrong decisions in the game from my point of view. We are interested both in the differences and similarities in choices between people."

Subjects in the High Teacher Control condition were then given a 10-15 minute lecture on the game. The lecture described the various situations, the number of choices to be made and the possible advantages and disadvantages of various choices. The lecture material was a balanced presentation and did not emphasize one value more than others. At the conclusion of the lecture, students were instructed to proceed and questions by students were discouraged.

Following the brief introduction, subjects in the Low Teacher Control condition were simply told to go ahead and try the game themselves and to ask questions whenever they felt like it. Whenever a question was asked, the information given in reply by the teacher was taken from the same lecture material given to the high control subjects. Whereas the High Control condition parallels a lecture situation, the Low Control condition represents more of a "discovery" approach to learning.

Results

To test the hypothesis concerning the joint effects of student achievement motivation and teacher control condition on value-choices, 2 X 2 analyses of variance (fixed effects) were performed for each set of value category scores. It is recalled that separate analyses are necessary for each set of value scores due to the fact that the total sum of value weights are not equal across values. Significant effects were obtained for all four value categories. However, not all of the obtained results fully supported the hypotheses proposed above.

Table 4 shows that for all subjects, a significantly greater proportion of choices representing the "efficiency" value were made in the High compared with the Low Teacher Control condition. Inspection of the means reveals also that students high in achievement motivation demonstrated a much greater difference across control conditions than did students low in achievement motivation. These results essentially support the hypothesis concerning the joint effects of achievement motivation and teacher control on choice of educational values.

Table 5 presents the results pertinent to the value of "Academic Achievement." Although a result similar to the one obtained for efficiency values was expected, the only significant difference obtained was that

TABLE 4

Mean Scores for Value of "Efficiency"

Achievement Motivation (A)	Teacher Control (B): High	Teacher Control (B): Low	
High	54.33 (n=16)	39.73 (n=16)	47.03
Low	56.13 (n=16)	50.47 (n=16)	53.30
	55.23	45.10	

F_A (1,60) = 1.56 ns

F_B (1,60) = 4.07 $p < .05$

F_{AB}(1,60) = 0.79 ns

TABLE 5

Mean Scores for Value of "Academic Achievement"

Achievement Motivation (A)	Teacher Control (B): High	Teacher Control (B): Low	
High	19.40 (n=16)	16.00 (n=16)	17.70
Low	9.80 (n=16)	12.40 (n=16)	11.10
	14.60	14.20	

F_A (1,60) = 4.99 $p < .05$

F_B (1,60) = 0.01 ns

F_{AB}(1,60) = 1.03 ns

TABLE 6

Mean Scores for the Value of "Personal/Social Growth"

		Teacher Control (B)		
		High	Low	
Achievement Motivation (A)	High	39.60 (n=16)	46.07 (n=16)	42.83
	Low	40.40 (n=16)	56.33 (n=16)	48.36
		40.00	51.20	

F_A (1,60) = 1.55 ns

F_B (1,60) = 6.34 $p < .05$

F_{AB}(1,60) = 1.13 ns

TABLE 7

Mean Scores for the Value of "Cultural/Political Involvement"

		Teacher Control (B)		
		High	Low	
Achievement Motivation (A)	High	46.73 (n=16)	58.33 (n=16)	52.53
	Low	57.60 (n=16)	40.93 (n=16)	49.27
		52.17	49.63	

F_A (1,60) = 0.39 ns

F_B (1,60) = 0.23 ns

F_{AB}(1,60) = 7.23 $p < .01$

high achievement-oriented students scored higher on achievement values than low achievement students. This, of course, would be expected. No effects due to teacher control condition were obtained and only a very slight interaction between motive and control condition was observed. This was in the predicted direction that high achievers would manifest this value more in the High Control condition, but the difference is not statistically significant.

For the values of "Personal and Social Growth," Table 6 reveals a strong effect for teacher control such that for all subjects, significantly more choices representing this value were made in the Low (discovery) Teacher Control condition compared with the High (lecture) condition. Moreover, as predicted, the difference between conditions was greater for low achievers than for high achievers. These results support the hypotheses relevant to these values.

Essentially, the same pattern of results predicted for the Personal/ Social values was predicted also for the values of "Cultural and Political Involvement." However, Table 7 shows only partial support for the hypothesis. As predicted, high achievers selected more choices representing this value in the Low Teacher Control condition, but rather than the predicted larger difference in the same direction for low achievers, the reverse effect occurred. Hence, a particularly substantial interaction term. No ready explanation exists for this unexpected result for low achievers.

Whereas the individual motive of resultant achievement motivation produced the expected joint effects with teacher control conditions for at least two of the major value areas studied, the other personality variables, analyzed in a similar manner, produced almost no effects. The motive of Social Love and Affection showed a weak main effect in that students scoring below the median showed some tendency to select "academic achievement" values more than students high on this motive ($F\ (1,60) = 1.61\ p < .20$). However, this was the only effect obtained with this motive.

As might be expected, the need for Academic Recognition showed a significant main effect to the extent that students high on this need

selected choices indicating the value of "academic achievement" more than students low on the need. But once again, this is the only effect obtained for this motive base.

Analysis of the joint effects of Need for Independence revealed only slight trends for high Independents to prefer the value of "Cultural and Political Involvement" more than lows and for low scorers on Independence to show more preference for the value of "efficiency" in their educational endeavors. No other effects were obtained for this motive.

Since we had counterbalanced for sex of student in the design of the study, a further set of analyses was performed for all value categories using sex as the individual difference variable. The only result obtained was that males tended to choose the value of "efficiency" somewhat more than females ($F(1,60) = 3.96$ $p < .07$). No other differences due to sex or to teacher control interactions were obtained. With this one exception, the above results may, therefore, be generalized to students of both sexes.

Discussion

The results provide some support for the hypotheses presented earlier. As predicted, the High Teacher Control strategy created conditions that led to significantly more student choices favoring the value of efficiency in education. Basically, this is an orientation that places stress on getting a degree with the minimum amount of effort--doing what is required and no more. It makes sense that a non-interactive, lecture type of approach to teaching would create a model for the development of efficiency values among students, since this is basically the value-orientation underlying the use of the lecture strategy. On the other hand, the more "discovery" oriented Low Teacher Control condition tended to decrease the number of "efficiency" value-choices made by students. This effect was much stronger for students high in resultant achievement motivation than for students scoring low on this measure.

The Low Teacher Control condition was expected to lead to a broader range of value-choices by students playing the University game. This prediction was upheld in the case of values of social/personal growth but not fully supported with respect to the values of cultural/political

involvement. Students in the Low Control or discovery condition chose significantly more courses of action that satisfied values of personal and social growth than students in the High Control lecture condition. Students low in achievement motivation showed a larger difference between conditions than high achievers and this result confirms a pattern that shows high achievers to be more oriented to academic goals and low achievers more oriented to personal and social goals.

The results obtained for the values of cultural and political involvement are mixed. As expected, high achievement students, just as with personal/social goals, tended to select more courses of action related to cultural and political development in the Low Teacher Control condition. However, the reverse was shown for low achievers. There is no good explanation as to why low achievers would select cultural/political values more in the high control lecture condition. One possible post facto explanation is that they might have been reacting against the teacher control as represented by the lecture and thus asserting their freedom more in terms of cultural and political (some slightly radical) choices.

There were no strong results produced by the use of the three other personality variables used in the study. There were a few trends that were consistent with expectations, but none of the more interesting interactions with teacher control conditions were obtained.

In conclusion, there is one important implication from these results for educational practice that might be noted. The implication is that teacher control strategies ("classroom structures") are not to be viewed as simply alternative means to the same set of educational objectives. Too often, educators have assumed a set of commonly agreed upon educational objectives and have then considered various teaching strategies as different means to the same end. However, the present study clearly demonstrates that the educational means (teaching strategies) may, in fact, shape the basic objectives and goals of education--at least for students, who after all, are the major product and test of an educational system.

If college administrators and faculty elect to have students taught in large lecture classes, this very process is likely to inculcate, or at least produce decisions by students, that maximize the value of "efficiency" in their educational careers. On the other hand, the use of small "discovery" groups in which students are given some responsibility and allowed some initiative will lead to courses of action in which relatively more emphasis will be placed on values of personal and social growth. The student careers in this latter situation may be more inefficient (take longer to graduate; more indecision as to major, etc.) but the main point is that once the educational values have been decided upon, not all teaching strategies will lead to an optimization of these values. The teacher-control strategies, in themselves, help to shape the educational values and goals of students.

Study Three: Student Performance as A Function of Task Structure, Teaching Strategy and Internal-External Control

In study three the questions raised in study two are explored further. The major changes made are: (1) the personality variable of Internal-External Control (Rotter, 1966) replaces achievement motivation as the main individual characteristic of interest; (2) an attempt is made to develop a more realistic simulation of teacher-control strategies; and (3) a task is used that permits fairly precise measurement of student performance, in contrast with the global task and value measures used in study two.

The shift of interest from achievement motivation to Internal-External (IE) control as the main individual variable of interest followed an attempt to elaborate upon the temporal aspects of the transfer-of-control paradigm. Rather than assuming that the process of transfer-of-control in learning will always begin at a point of high teacher-control and move gradually toward student control, we began to assume that the problem was rather one of the selection of the best teaching strategy given the objective skill status and the subjective competency of students entering a particular course of study. For example, given a novel topic to be learned (i.e., objective still is zero) almost everyone would benefit from some degree of teacher control and initial structure. To the degree that students already possess some skill or competency, an appropriate reduction in teacher control would be necessary.

Besides objective task competency, one further variable that will help determine an appropriate control strategy is subjective feelings of competency on the part of students. A student may be quite skillful, but may still depend psychologically on external structure and support for further learning and future performance. On the other hand, a student with no skill at all may reject external structure or control and try to exercise his or her own initiative for learning at the beginning. Both types of students are in a sense "misfits" in the transfer-of-control paradigm, because of the incongruence between objective skill development, subjective sense of competency and control over the teaching-learning process.

So, for the present study, the main measure of student subjective competency to be used is Rotter's Internal-External Control Scale (Rotter, 1966). Persons scoring high on the "Internal" end of this scale subscribe to a generalized belief that they are able to control their own reinforcements and can personally effect whatever they choose. They have a strong sense of their own personal competence. Persons scoring high on "External" control, tend to feel that they have very little control over what happens to them--that events are more due to fate, chance or the influence of "powerful others." In addition to increases in objective competency, it is apparent that individual differences in I-E will affect the capacity of students to accept responsibility for and control over their own education. We expect a strong interaction between this variable and teaching control conditions.

The particular teaching situation used in this study is more realistic and representative than the one used in the last study. Students were recruited to sign up for a two hour "course" in the fundamentals of computer programming. The course was taught by the same teacher under two different control conditions, but using exactly the same amount of material to be learned and the same test of learning at the end of the class (students were required to write a short test program). The test programs were graded in terms of number of errors made and so provide a much more specific measure of student performance than was available in study two.

Finally, whereas the teaching control manipulation in study two was conceived and designed by the experimenters, an attempt was made in this study to define the differences between high and low teacher-control empirically. Seven hundred students in an Introductory Psychology class were asked to give written descriptions of the least and most disciplined or structured classes they had ever taken. From these descriptions, 8 different dimensions were extracted that seemed to differentiate the least and most disciplined classes. These dimensions, in order of importance, were: (1) Amount of work assigned, (2) Difficulty of material, (3) Amount of structure, (4) Strictness of teacher, (5) Pace of work, (6) Pressure, (7) Formality in class, and (8) How well teacher explained

material. Since we wanted to compare performances across control conditions in the study, it was necessary to control for amount of work to be done (1), difficulty of task (2), and, if possible, clarity of explanation (8). All of the other dimensions were incorporated into the teaching procedures that differentiated the High and Low Teacher Control conditions (see below).

Hypotheses

(1) Given a comparable level of initial skill on a task to be learned, high internal-control students will perform better under conditions of Low Teacher Control whereas low internals (high externals) will perform better in the High Teacher Control condition.

(2) The same interaction as in (1) above is predicted also for student measures of satisfaction with learning and expectations for future performance.

(3) Students who are assigned to the teacher-control condition of their own choosing will be more satisfied and will perform better than those assigned to a non-chosen condition.

This last hypothesis is intended to demonstrate the importance of student choice in selection of classes. We expect the congruence effect to be most evident for high internal-control students who value personal initiative and choice more than high externals.

Methods

Subjects: The pretest package was administered to approximately 700 students in an Introductory Psychology class. From these, 60 students were selected to participate in the study--half in the High and half in the Low Teacher Control conditions.

Measures and Controls: The major personality measure administered was the Internal-External Control Scale (Rotter, 1966). This scale consists of 23 forced-choice items with the response alternatives representing internal and external beliefs respectively. Previous factor analyses of this scale have shown it to be multifactorial (c.f. Gurin, 1969). Two major factors identified, and which will be useful in this study, are: (1) Personal Control--these are items which are phrased

in the first person and which tap most directly the sense of subjective competence of interest to this study; (2) Control Ideology--these are items phrased in the third person and represent beliefs about the state of affairs in society at large. These more indirect beliefs about the possibility of internal control being exerted in society at large may be less well related to the specific task used in this study. In addition to these established subscales, a new subscale was developed specifically for this study labeled, Educational Control Scale. This consisted of three Rotter Scale items that had to do with IE in educational settings, plus three new items that were written by the experimenters.

To ascertain student preferences for teacher control conditions, two questions were asked: the first concerning choice of discipline or control in general and the second concerning choice of control condition for learning computer programming specifically.

Finally, a number of questions were asked which permitted us to control for several critical variables. The final selection of subjects produced a sample that was homogeneous with respect to past computer programming experience (none), academic CPA, expectation of task success, major field of study and current overall satisfaction with educational career. Sex of student was counterbalanced in the design of the study.

Procedure:

The final sample of students selected were stratified according to IE score (above and below median) and whether or not they were assigned to the teacher control condition of their choice. Within these constraints, subjects were randomly assigned to one of two teacher control conditions.

High Teacher Control: In this condition, the teacher taught the two hour class on computer programming in such a way that the discipline dimensions of structure, strictness, work pace, pressure and formality were stressed. For example, there were rules imposed concerning not leaving the room, not smoking and not talking in class unless spoken to. The teacher went through each step to be learned clearly but at moderate speed. All exercises were done and checked at the teacher's direction. Questions were discouraged, except at specified times.

Low Teacher Control: The same teacher, in this condition, taught the class in such a way as to represent the weakest form of teacher control or discipline. At the beginning of the class the teacher handed out the material given in the lecture condition in booklet form, including the quizzes and answers. Students were encouraged to work on what they felt like and were told that nothing was required except that they take the exam at the end of the two-hour period. Students were permitted to talk and work together, to smoke, to leave the room whenever they wished (two subjects in this condition left and did not return!). Whether students did any work at all was entirely up to their own initiative. The teacher was available to answer questions and to help individual students.

In both conditons, a short questionnaire was administered immediately prior to the final exam. Measures were obtained for: (a) interest in class, (b) satisfaction with type of teaching, (c) expectations for performance on the final exam, (d) perceptions of class discipline on the eight dimensions developed earlier, and (e) representativeness of the classroom situation (was it like or unlike other classes).

Results:

Before moving to the analyses appropriate for testing the hypotheses, it is necessary to check whether the students in the study actually perceived any differences between the two teaching conditions. Table 8 shows that for all of the discipline dimensions that were manipulated, students perceived significant differences between the High and Low control conditions. Particularly large differences were perceived on the dimensions of strictness and formality.

In order to compare performances across conditions, we had hoped to control for possible differences in perceived difficulty, amount of work and clarity of explanation. We succeeded with two of these, but there was a significant difference for perceived difficulty. This may have some effect on performance differences. It is interesting to note that it was students in the Low Control condition (relaxed teacher) who perceived the task as more difficult than students in the High condition (strict teacher).

TABLE 8

Student Perception of Teacher Control

	Control Dimension	$\bar{X}$ High Control	$\bar{X}$ Low Control	t Value	P
1.	Amount of Work	2.50	2.71	0.51	ns
2.	Difficulty of Task	1.93	3.29	4.34	$<.01$
*3.	Amount of Structure	4.79	3.07	4.79	$<.01$
*4.	Strictness	3.86	1.57	7.05	$<.001$
*5.	Work Pace	3.92	2.21	3.89	$<.01$
*6.	Pressure	3.00	2.00	2.38	$<.05$
*7.	Formality	4.58	1.64	13.44	$<.001$
8.	Clarity of Explanation	4.21	3.86	0.87	ns

*Expected differences between conditions

TABLE 9

Mean Performance Scores for Personal Control IE Subscale and Teaching Conditions

		Teacher Control (B)		
		High	Low	
Personal Control (A)	Internal	82.86	92.14	87.50
	External	89.57	81.29	85.43
		86.21	86.71	

$F_A(1,24) = 0.01$ ns

$F_B(1,24) = 0.23$ ns

$F_{AB}(1,24) = 4.19$ $p < .06$

The first hypothesis predicted an interaction between student IE and control condition such that high internals would perform better in the Low Control condition and externals would perform better in the High Teacher Control condition. The 2 X 2 analysis of variance using the Personal Control IE subscale provides support for this hypothesis (Table 9). There are no main effects but the predicted interaction is significant ($p < .06$). The mean scores are for performance on the final test in the class (maximum score is 100).

A similar analysis using the Control Ideology IE subscale produced mean scores that tended in the right direction (see Table 10), but the interaction was not statistically significant. Analyses employing the Education IE subscale produced no significant results.

The second set of hypotheses predicted the same pattern of interactions for measures of student satisfaction with the class and expectations for performance on the final examination. High internals were expected to feel more satisfied and more confident in the Low Teacher Control and high externals to be more confident and satisfied in the High Teacher Control condition. However, for the satisfaction measure (Table 11) exactly the reverse was found. Although the interaction is marginally significant, the effect for Externals is quite marked. Externals in the High Teacher Control condition, who had performed better were less satisfied with the class than externals in the Low control condition whose performances were poorer. The trend for Internals is weaker but again reflects the reversal effect for performance and satisfaction. No significant effects were obtained from an analysis of the expectancy measures, so this variable is not a likely mediator between the satisfaction and performance variables.

The third hypothesis concerned the effects of student choice of condition as a function of whether or not they were assigned to their preferred condition. It was expected, particularly for high Internals, that assignments to preferred condition would result in better performance and more satisfaction. Table 12 shows that there is a slight trend in the predicted direction with the performances in the congruent cells (Hi-Hi, Lo-Lo) being somewhat better than performances in the incongruent

TABLE 10

Mean Performance Scores for Control Ideology
IE Subscale and Teaching Conditions

		Teacher Control (B)		
		High	Low	
Control Ideology (A)	Internal	84.00	91.00	87.50
	External	88.63	83.13	85.87
		86.31	87.06	

F_A (1,28) = 0.02 ns

F_B (1,28) = 0.10 ns

F_{AB}(1,28) = 1.52 $p < .25$

TABLE 11

Mean Satisfaction with Class by IE and Teacher Control Condition

Control Ideology (A)	Teacher Control (B): High	Teacher Control (B): Low	
High	8.14	7.43	7.79
Low	5.00	7.85	6.42
	6.57	7.64	

F_A (1,24) = 2.04 ns

F_B (1,24) = 1.27 ns

F_{AB}(1,24) = 3.54 $p < .08$

TABLE 12

Mean Performance by Choice of Control Condition and Assignment to Condition

		Teacher Control Condition (B)		
		High	Low	
Student Choice of Teacher Control Condition (A)	High	88.00	84.25	86.13
	Low	83.62	89.50	86.56
		85.81	86.88	

F_A (1,28) = 0.01 ns

F_B (1,28) = 0.04 ns

F_{AB}(1,28) = 0.82 ns

cells (Hi-Lo, Lo-Hi). However, the interaction is not statistically significant.

Discussion

The results show an important interaction effect for Personal Control IE and teaching condition, although this finding is not strongly supported by analysis of related IE scales. However, the firding has two important implications. Firstly, it is a further demonstration of the necessity of studying interactions between individual differences and teaching conditions, rather than simply looking for main effects for teaching conditions over all types of students. Combined with study two, the results for IE add to our store of information about student-teaching condition interactions.

Secondly, the variable IE is a particularly appropriate individual difference indicator in the context of the transfer-of-control paradigm since it reflects the subjective state of student willingness to assume control over the educational process. What the present study has demonstrated is that, in addition to objective skills, it is necessary to assess subjective states of perceived competency and control in order to best match students with teaching control strategies.

The remaining results are confusing and disappointing. The confusing result is that there was a strong tendency for students in the conditions that produced good performances to be less satisfied with their respective class experiences than students in the conditions with relatively poorer performances. This effect was much stronger with high External-control students. Keeping in mind that the satisfaction measures were obtained immediately prior to the final exam, it may be that it reflects anxiety over the coming test rather than satisfaction with the class *per se*. We have no support for this possibility except to note that in some past studies, there has been a weak relationship shown between externality and anxiety. Expectancy of success was apparently not a factor in determining either satisfaction or performance since no differences were found on this measure between conditions.

The results for choice and condition congruence were disappointing. We had expected to find significant differences both for satisfaction

and performance for Internals assigned to chosen and non-chosen conditions. In particular, we were interested in whether a "rebellion" effect might occur for high Internals assigned to a non-preferred High discipline condition. No such effect was evident. Less confidently, we expected a "confusion" effect for high Externals assigned to a non-chosen Low discipline condition. Again, no such effect was observed. It might be that preferences stated in the pre-test some 2 months before the actual study may have changed in the interim or that the preferences were not strongly held in the first place. In any case, the results are not strongly supportive of a critical role for choice in the transfer-of-control paradigm.

Summary and Conclusions

The basic assumption of the transfer-of-control paradigm is that education involves a gradual shift in responsibility for learning from teacher to student. A number of issues derived from this paradigm have been investigated in the three studies reported here; relationships between teacher characteristics and teacher control styles, the effects of various teaching styles on student value decisions, performances and satisfactions;and the interaction between student characteristics and teaching conditions. The major results are summarized below.

A. Teacher Characteristics and Teacher Control Styles

(1) Teachers who score high on resultant achievement motivation reveal preferences for teaching styles that facilitate rather than hinder effective transfer-of-control in college classrooms. In particular, high achievement-oriented teachers tend to be more inclined to use cooperative rather than competitive grading systems and are less likely than low achievement teachers to impose their own standards on students.

(2) Teachers who score high on dogmatism are unlikely to be effective in terms of promoting student responsibility for education, since they prefer to apply their own standards strictly in classroom situations and are much less likely than low dogmatic teachers to give students the benefit of doubt in ambiguous situations.

(3) O. J. Harvey's belief systems measure is related to teaching styles. The most concrete group (System 1) and to a lesser extent the most other-dependent group (System 3) show strong preferences for a high rule-orientation in the classroom. On the other hand, the System 3 teachers are much less likely than other systems to use a competitive grading structure and are more oriented towards encouraging cooperative efforts.

B. Teaching Control Styles, Student Characteristics and Student Outcomes

(1) Under conditions of high teacher control, students tend to make decisions that maximize the value of efficiency in their educational (college) careers. This is especially true for students high on resultant achievement motivation.

(2) Under conditions of high student control (Low Teacher Control) students make more decisions that represent the values of personal and social growth in their educational careers. This is particularly true for students with low resultant achievement motivation.

(3) Students who score high on the Personal Control subscale of the Internal-External Control scale, perform better in a Low Teacher Control condition rather than a High control situation.

(4) Students who score high on externality on the IE Personal Control scale perform better in a High rather than a Low Teacher Control condition.

Several conclusions may be drawn from these results. With respect to the findings concerning teacher characteristics and teaching styles, it must be noted that not all teachers will be able to demonstrate the flexibility and resourcefulness necessary for successfully transferring control and initiative in educational settings. The results suggest that basic personality variables may be responsible for facilitating or hindering effective teaching performance in this area. Whether these characteristics are subject to modification through training programs or not is an open empirical question at the moment. However, one thing is clear; teacher training programs can no longer simply promote one or another teaching style ("structured" or "unstructured"). What is needed is a program that will train teachers to use several different styles as conditions for learning change for students.

The importance of making teachers aware of the consequences of different teacher-control styles for student learning was demonstrated clearly in the second study. Not only student performances, but the actual shape and content of student values concerning their educational future were influenced strongly by variations in teacher-control conditions.

Not only must teachers learn what general effects various teaching styles may have on student outcomes, but they must also be alert to individual differences in students' reactions to different teaching styles. Differences in student ability and prior experience will obviously determine the level of teacher or student control appropriate for a given student. But there are more subtle variables. Achievement

motivation has been found to interact with control condition to affect student value choices. More importantly, student differences in internal-external sense of control were found to interact significantly with teacher control conditions to determine student performance on a specific learning task.

In sum, the studies lend support to the conclusion that teacher training programs need to add to their content or subject orientation an approach that helps teachers become aware of their own preferred teaching styles, to learn additional styles in order to be more effective, to correctly diagnose the state of student skills and subjective feelings of competency and to become skilled practitioners in the art of making themselves dispensible in the course of a student's educational career. If these results were achieved, students would remain students all their lives instead of simply considering education as something that was forced on one as a child or adolescent.

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APPENDIX A:

Part II: Teaching Situations

Below are brief descriptions of situations or events that might occur in your class. Read each situation through once and give your immediate response to the situation. Do not spend more than one minute on each situation.

1. After handing out the course outline at the first class session, a student in the front row reads it and groans aloud, "Is this supposed to make us educated?" Your response:

2. Following some discussion of course objectives, a group of students suggest tnat all students in the class should be guaranteed a course grade of A. Their argument is that this will relieve anxiety over grades and allow students to really learn something. What is your personal opinion of this idea (regardless of University pressures and rules)?

3. You have assigned a term paper or project on the topic of automobile pollution and alternatives. After class, a student asks if he can combine the paper for this course with one he is doing for a business course on a cost-analysis of federal anti-pollution requirements for fuel-burning power plants. He plans to submit the combined paper to both classes and says that although it may not fully meet the requirements for this course, he would personally benefit from doing it this way. Your response?

4. At the third class session, a student stands up and proclaims that he is tired of being told what to do in class and that students should determine what is included and how it should be handled. After class discussion, it is apparent that a small group agrees with this, a small number oppose the idea, and the remaining majority of students are indifferent. How would you respond to the demand?

5. Midway through the course, a student asks a question after class that shows an incomplete grasp of a basic point that the rest of the class has shown evidence of understanding thoroughly. What would you say?

6. A student writes a poem that expresses his personal feelings about pollution in place of a factually based essay you had assigned. He explains that in writing the poem he had to assimilate the material in a creative fashion and that learning facts was not that important. What would your reaction be?

7. The class will not pay attention to your presentations despite your efforts to capture their interests. How would you feel about this?

8. Suppose you had the choice of structuring your class to facilitate debate and productive competition among students and ideas or to facilitate cooperative and mutual efforts among students towards learning and understanding. Which direction would you emphasize most? Why?

9. After you have assigned a short paper on a specific topic, a student asks if it would be possible for each student to choose their own topic for the paper. Your reply:

10. After tentatively raising her hand several times, a student interrupts an important point to say, "This may sound silly but I think that...." After she has said this she lapses into an embarrassed silence. You can only

agree (privately) that her suggestion is silly. How would you reply?

11. A bright student fails an exam; as he admits himself, he did not take the assigned reading seriously enough. He asks if you could give him some kind of make-up. What would you say?

12. If you were able to determine completely your own system of grading in the course, what would you use?

13. Several students insist on smoking in class even though there are several large No Smoking sign . What (if anything) would you do?

14. A student replies to a question you raise with a mildly interesting idea but it is clear that he did not comprehend the original point of your question. Your reply:

15. Four students who have been working on similar individual papers most of the term ask if they could write a group term paper and get a common grade for it. Your reply:

16. You give an examination that you think is a good test of knowledge and comprehension but half the class does poorly. You are surprised because you had felt the students were making good progress. Where would you begin to look for the source of the problem?

17. Following several small discussion group sessions, a student complains to you that she feels that students are withholding their best ideas from group discussions to increase their chances of doing well on the term paper and final exam. Your reply to her:

18. A student who is on probation with a low GPA and despite help is doing very poorly in your course comes to you and asks your advice as to whether he should drop out of school. Your response:

19. At mid-term you give a short examination and also get some evaluation feedback on how the course is going. Students do poorly on the exam but indicate that they really like you as a teacher. How would you feel?

20. Students request that you take a political stance on the pollution issue but University regulations forbid political activity in classes. What would you do?

21. After several small-group discussion sessions, some students come to you and complain that they could get ahead faster on their own and that the group

discussions, while fairly interesting, are taking up too much of their time. What would you suggest they do?

22. You have given students some freedom in developing a project or paper of their own within the course. A student comes into your office one day very excited about what he calls "dream pollution." He wants to write the term paper on this using materials from the psychoanalytic analysis of dreams, from literature on astrology, and by drawing analogies from physical pollution. Your response:

23. An older student who has had a lot of practical experience related to the area of pollution under discussion challenges the validity of research finding you have presented. You consider the research to be well designed and competently done. How would you respond to his challenge?

24. The final course evaluation for students reveals that they rated the course topic as interesting but the selection of material and class presentations as somewhat boring. How would you account for this discrepancy?

APPENDIX B:

UNIVERSITY GAME

I. ACADEMIC ACTIVITIES

One unavoidable aspect of University life is academic activity. On the one hand, you must meet the requirements for graduation which include 15 hours per semester, general studies and major requirements, etc. On the other hand, you may want more intense intellectual experiences or experiences that are less intellectual but contribute a great deal to personal growth and awareness. Obviously, very few people can do everything at once. The rest of us have to make some choices. So choose the alternative below that you like most or think is best for you.

(Circle letter chosen.)

a. Take what is required and maintain a satisfactory grade point average so you can be sure of graduating.

b. Get into the honors program and try to maintain a high GPA in difficult but interesting courses.

c. Take a number of experimental study courses that involve new experiences and interests.

Ia.

You have completed your first year and passed all your courses with a GPA of 3.4. This has taken steady work but you have had some time for other things. What would you choose to do for the second year.

(Circle choice.)

1. Continue as you have. Take what is necessary but don't overdo it. Don't ruin your chances for graduation.

2. Continue to take required courses but add one or two difficult but stimulating courses for your own interest even though this will mean more work.

3. Continue to take required courses but add one or two experimental courses to see what they are like. This will mean extra time and effort, though.

1b

The honors program is certainly a challenging and stimulating experience although you are exhausted at the end of the second term and ready for a summer break. However, your advisor reminds you that you are not taking the distribution and general studies courses required for graduation. What would you choose for your second year?

(Circle choice.)

1. Continue to take honors courses because they are more exciting. Hope to pick up the required courses later.
2. Reduce the number of honors courses so that you can pick up some of the required courses.
3. Get involved in academic reform activities to try to eliminate or reduce the number of required courses.

1c.

Looking back at the end of the first year, you feel that your participation in experimental studies courses was a very worthwhile learning and growth experience. However, your academic advisor reminds you that you are not taking the courses (distribution and general studies) that are required for graduation. What would you choose for the second year?

(Circle choice.)

1. Continue to take experimental courses because they are more exciting. Hope to pick up required courses later.
2. Reduce the number of experimental courses so that you can pick up some required courses.
3. Get involved in academic reform activities to try to eliminate or reduce requirements.

II. SOCIAL LIFE

At some point you must face the problem of being a part of or being apart from social life at the University. Going out and having some fun with friends, sitting around getting stoned and talking, getting close with boyfriends or girlfriends, and being a member of organized social groups are all things that can make demands on your time. They are things you might enjoy doing very much or you may feel pressured into doing some of them. Since you must deal with the problem in the way best for you, what would you be most likely to choose?

(Circle choice.)

a. Take full advantage of social activities; meet people and do things that you really enjoy doing.

b. Get more involved in University community and cultural activities to escape social pressures and in the hope of finding some intellectual fulfillment.

c. Get into yourself more and do things that help you explore your own feelings and thoughts, including those that have to do with other people.

d. Find a close (perhaps love) relationship with another person.

IIa.

You have had a fantastic time and really enjoyed yourself a lot. Got a lot of pleasure out of life. but your final exam grades are not so good. What would you do?

(Circle choice.)

1. Continue to have a good time while you can and hope to improve your GPA later on.

2. Take easier courses so that you can keep having a good time but also improve your GPA.

3. Reduce your social activity and concentrate more on your courses.

IIb.

Although your involvement in community and/or cultural life has been satisfying, you still feel detached and unfulfilled. What would you do?

(Circle choice.)

1. Try to deal with the source of the problem by joining a group that is trying to get more integration of living and learning experiences on campus.
2. Decide that the problem is too large to try to solve in the short time you are at the University. The important thing is to graduate; concentrate on your courses.
3. Something more drastic is needed to solve the problem of alienation on campus. Join a campus commune that is trying to create alternative approach.

IIc.

You have been trying different ways to increase self awareness and some of them are really exciting. On the other hand, getting into any of them seriously might affect your studies. You choose to:

(Circle choice.)

1. Reduce these activities so that you can spend more time on your courses.
2. Feel that it is more important for you to understand yourself and experience new things so keep experimenting with drugs or meditation, etc.
3. Join a sensitivity or encounter group to further explore your own feelings and how you affect other people.

IId.

You have found a person you can really be close to and enjoy spending a lot of time with. It is fantastic. But the problem is that it is difficult to put the time you need into your studies. What would you do?

(Circle choice.)

1. Forget study for a while, enjoy him or her while you can.
2. Try to do both--study more but spend a lot of time together.
3. See less of him or her and study more--you have to graduate.

III.

Even though you may be a long way from home, you cannot completely forget your old friends and the things you have done together. Perhaps at some time you feel that the University has not met your expectations. What would you do or think?

(Circle choice.)

a. You tend to believe that the superficiality or impersonal atmosphere of a large University compares poorly with the depth of your past relationships.

b. Decide that the past cannot be recreated. Try to take advantage of the present opportunities by concentrating on your studies and by seeking intellectual gratifications.

c. Decide that the past is past and try to involve yourself and others in campus activities hoping that things will get better.

IIIa.

You have been thinking a lot about your old and close friend or friends. To resolve the conflict between the past and present you:

(Circle choice.)

1. Decide that you want to see your old friend(s) once more, so you take a few weeks off to go back to see them.

2. Decide finally that the past is past. Try to find new friends and get into your work more.

3. Decide that the best thing to do while at college is to take advantage of the opportunity to do well in academic activities. Forget about friends for a while and concentrate on your work. Maybe even take some challenging courses.

IIIb.

You have been working harder and have found some challenge in writing papers and in your courses. But once again you begin to wonder about the possibility of really establishing close friendships or relationships at the University. After thinking for a while you:

(Circle choice)

1. Make some attempts to meet people but also keep working on your studies.

2. Decide once again that it is impossible to establish meaningful relationships in just a few years. Throw yourself back into studies. Choose really challenging courses and projects.

3. Make a serious effort to find a friend or friends. Engage in much more social activities.

IIIc.

Through your work in campus activities you have found some people whom you like and enjoy being with. But you feel uneasy both about the lack of depth in these relationships and also about lack of time to study. After thinking about it you:

(Circle choice.)

1. Decide to work harder at studies but also try to maintain your campus activities.
2. Get more involved with new friends and try to increase depth of the relationships.
3. Forget about trying to build new friendships for a while. Throw yourself into your studies.

IV.

At some point in your University life you must cope with the expectations your parents or relatives have for you. Please circle one of the following:

a. Both you as an individual and your parents believe that the primary goal of a University education is academic achievement. You work on this.

b. Both you and your parents believe that the primary benefit of the University is in personal growth and developing satisfactory interpersonal relationships. You seek out other people and new experiences.

c. While you can understand your parents' viewpoint on what they think is best for you, it seems important to you to make your own decisions on how to participate in the University structure. You get into campus activities and academics you think are important for you.

IVa.

Your hard work is paying off. Your grades are excellent. But you feel a bit depressed at not having any friends or doing much else besides work. After thinking about it you:

(Circle choice.)

1. Do less studying and seek out friends or do other things.
2. Keep working hard to maintain what you have achieved but try to seek out friends and other activities at the same time.
3. Keep working hard to maintain your excellent record since that is most satifying to you.

IVb.

You have really found good ways to understand yourself and to relate to other people. It has been really stimulating but you feel a bit uneasy about how little time you are spending on requirements for graduation. So you:

(Circle choice.)

1. Work more on requirements but keep going on your original goal.
2. Decide again that what you are doing is more important than simply getting a degree.
3. Join a group that is working to abolish or reduce requirements.

IVc.

You have been putting a lot of time and effort and getting a lot of satisfaction from the activities you chose. But you are behind in meeting the requirements for graduation. So you:

(Circle choice.)

1. Spend more time on required courses but maintain some campus activities.
2. Become disgusted with the irrelevant requirements. Work to get them abolished or reduced.
3. Try to keep working on all the activities you have chosen and to meet requirements at the same time.

V.

While on campus it is difficult to ignore the attractions and activities around it. Community organizations, political activity, the mountains, a big city are all things that can take you off-campus for periods of time. In dealing with this you:

(Circle choice.)

a. Find that you can really get into and enjoy the outside activities. Spend a lot of time outside.

b. You find that outside experiences complement your campus studies, providing new aspects to learning. Spend time both on and off campus.

c. Although your outside or off-campus activities are exciting, you find it is hard to maintain both academic and off-campus activities at the same time. You return to campus to complete your degree first.

Va.

You have been really busy or having a good time on off-campus activities but one day you get a notice that says you are on academic probation at the University. So you:

(Circle choice.)

1. Keep doing what you want to do and not worry about academic probation.
2. Spend more time trying to bring GPA up but keep doing some off-campus things.
3. Come back to campus and make an effort to graduate and get the degree.

Vb.

Trying to maintain academic interests as well as off-campus activities at the same time is beginning to wear you down. So you:

(Circle choice.)

1. Reduce off-campus activities to weekends only and concentrate mainly on academic requirements.
2. Keep trying to do both and to integrate them because you think it is worth the effort.
3. Give up off-campus activities. Get into your campus work, maybe even take some honors courses.

Vc.

Your progress towards the degree has improved greatly since you returned full-time to campus. So you:

(Circle choice.)

1. Keep going and complete all the degree requirements before you do anything else.
2. Keep going and finish degree requirements and maybe even use your past experiences to do a special independent study project or some extra research or reading.
3. Since you are in good shape now academically, you decide to resume your off-campus pursuits.

VI.

In addition to the large classes, objective tests, and depersonalization, the University has a long list of rules and requirements and an imposing bureaucracy to implement them. In order to survive you must develop some strategy for dealing with the system. Please circle one of the following:

a. Meet the minimum requirements but have a good time and don't let the system get to you.
b. Take smaller experimental studies courses and do some independent study to counteract the effects of large classes, etc.
c. Work positively and actively for changing the system or making it work for the students. Be prepared to spend some time in these activities.

VIa.

Things have been going along well except that your GPA for your major courses is a bit low. So you:

(Circle choice.)

1. Don't let it hassle you since you are in good standing and in addition enjoying yourself some.
2. Ease up on the social life just a bit in order to do more on required courses.
3. Reduce social activities greatly in order to be sure to finish degree satisfactorily.

VIc.

You have had a few small successes and many disappointing failures in your attempt to change the system. Moreover, your GPA in your major courses is getting low. So you:

(Circle choice.)

1. Decide to do more in the way of protest activity to make both students and administration aware of the problems that need to be dealt with.
2. Continue your efforts at reform and change since every success and every change counts in the long run.
3. Cut down on reform activities and devote more time to major courses.

VIb.

You are enjoying the smaller size and more personal learning atmosphere of the experimental courses. But your GPA for major courses is a bit low. So you:

(Circle choice.)

1. Continue to take the smaller classes because the hassle of doing well in large major classes is not as important as the learning experiences in the smaller classes.
2. Reduce ESP courses and give more time to major courses.
3. Drop everything else and make sure you do well in your major.

VII.

In the last two years as an undergraduate student, you become aware of some of the limitations on intellectual curiosity that the regular requirements put on you as an individual. So you:

(Circle choice.)

a. Take as many honors courses as you can and try to include field or research experiences to expand your educational experience.

b. Take several courses in a free university that is operated in the city.

c. Devote time to city and community activities that are related to your academic interests in an effort to link your university experience to the real world.

VIIa.

You find yourself involved in a large research project that takes a lot of time. The honors courses are also keeping you very busy so that your regular courses are suffering. So you:

(Circle choice.)

1. Keep going on research project and honors. Try to give more time to regular course requirements. This will mean a lot of hard work.
2. Try to reduce your research involvement so that you can spend more time on regular requirements and honors.
3. Drop one of your courses but continue the research involvement. Petition for credit for research.

VIIb.

You have found the Free University courses to be very exciting and stimulating and you must now decide whether to continue the interest or work on the requirements for your regular degree more:

(Circle choice.)

1. Maintain interest in the Free University. Offer to help teach a course there.
2. Take a few more courses at the Free University but work also on regular degree.
3. Put your time in on getting the regular degree.

VIIc.

You have been able to relate your academic and community activities a little, but not as much as you would like. On the other hand, you worry about the time you have to give to the community activities. So you:

(Circle choice.)

1. Decide it is worth the effort and try harder to link academic and real-world learning experiences.
2. Cut back some on community activities and spend a bit more time on your academic work.
3. Give up the community activities for the time being and concentrate on your studies.

VIII.

You are in your senior year and there are many things you would like to do before you leave the University:

(Circle choice.)

a. Work on being able to graduate--this is the most important thing to do.

b. Make some contribution to the University in terms of your time or effort before you leave. The idea is to leave something to benefit future students.

c. Try to spend time with your friends while you can--next year everyone will be gone.

VIIIa.

You have decided to get your degree but you still have to choose whether to:

(Circle choice.)

1. Do extra research, honors thesis and exam, and try for honors.
2. Work some extra time to try to improve your GPA a bit.
3. Do only what is necessary to graduate successfully.

VIIIb.

You must now decide how you want to make a contribution to the University and benefit future students:

(Circle choice.)

1. Put time and effort into the grade reform movement so that future students will not have to go through what you have had to.
2. Organize a new experimetnal studies course.
3. Organize a class gift to the University. You must help raise the money and decide what to give.

VIIIc.

In order to have one last good time you are going to concentrate on:

(Circle choice.)

1. Going to lots of parties with your friends.
2. Spend a lot of time with your boy or girlfriend.
3. Go to as many rock concerts, films, plays as possible with your friends.